

CLAIMS

1. A secondary stage regulator for use on a marker, comprising:
a regulator housing, said regulator housing comprises a piston housing, a
gas distribution body, a tournament cap, an adjustment nut, a spacer, a
5 compression spring, a piston, a pin, a pin spring, and a seat,
said regulator housing is configured such that when said piston is inserted
in to said piston housing, said pin is positioned within said seat and said piston is
positioned against said pin that is supported by said pin spring,
said compression spring and said adjustment nut are inserted into said
10 piston housing, respectively, said adjustment nut being located inside of and
extending out of said piston housing, said adjustment nut is capable of being
rotated to adjust said outlet pressure of said regulator.

2. A method for operating a secondary stage regulator on a marker, said secondary stage regulator having a regulator housing, said regulator housing comprises a piston housing and a gas distribution body, a tournament cap, an adjustment nut, a spacer, a compression spring, a piston, a pin, a pin spring, and a seat, said regulator housing is configured such that when said piston is inserted in to said piston housing, said pin is positioned within said seat and said piston is positioned against said pin that is supported by said pin spring, said compression spring and said adjustment nut are inserted into a piston area of said piston housing, respectively, said adjustment nut being located inside of and extending out of said piston housing, said adjustment nut is capable of being rotated to adjust said outlet pressure of said regulator, wherein the method comprises the steps of:

10 applying and transferring a pressurized gas from a pressure vessel to said marker to an inlet port of said regulator, said pressurized gas flows into said gas distribution body and through said piston housing,

15 unseating said pin from said seat by expansion of said compression spring,

transferring a predetermined and adjusted pressurized gas into said piston area thus,

20 compressing said compression ring by the change of pressure within said piston area,

reseating said pin to said seat to result in a pressurized piston area,

exhausting said pressurized piston area to said marker to propel a paintball,

25 reapplying and retransferring said pressurized gas from said pressure vessel to said marker to said inlet port of said regulator and,

repeating the above steps, as needed, to propel a plurality of paintballs from said marker.